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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,867	06/14/2005	Bernhard Hiller	407-376	4283

7590 06/14/2006

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EXAMINER	
KHUU, HIEN DIEU THI	

ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H'A

Office Action Summary	Application No.	Applicant(s)	
	10/538,867	HILLER, BERNHARD	
	Examiner	Art Unit	
	Cindy D. Khuu	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23,25 and 29-31* is/are rejected.

7)☒ Claim(s) *24, 26-28 and 32-33* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) ~~filed on _____ is~~/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/14/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings Objection

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Applicant is given a TWO MONTH time period to submit a drawing in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit a drawing will result in **ABANDONMENT** of the application.

Claim Objections

Claims 1-33 are objected to because of the following informalities: No transitional phrase. Appropriate correction is required.

Claim 1 is objected to because of the following informality: The method does not appear to recite any processed steps. Appropriate correction is required.

Claim 1 is objected to because of the following informality: The word "singal" (Line 6) has a typographical error. Appropriate correction is required.

Claim 23 is objected to because of the following informality: The reference "a position sensor (1)" (Line 2) should be "a position sensor (7)". Appropriate correction is required.

Claim 29 is objected to because of the following informality: The phrase "... represent the movement of a meas" (Line 5) appears to lack of clarity and further without proper ending punctuation. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-22 and 30-31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claims 1-22 and 30-31, the methods of a position measurement do not produce any tangible results. The practical application of the claimed invention cannot be realized until the information determined is conveyed to the user. For the result (digital position signals) to be tangible, it would need to output to a user, displayed to a user, stored for later use, or used in any tangible manner. Hence, the claims are treated as nonstatutory functional descriptive material (See MPEP Sec. 2106 and http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9, 17, 19, 21, 23, 25 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Hagl et al. (US 6,097,318).

With respect to claim 1, Hagl discloses a position measurement (*1*) method, in which a digital position signal (POS, POS', POS") (*Fig. 2; 9, 6, 12*) which represents a position measured by a position sensor is calculated from an input sine signal (SIN) and an input cosine signal (COS) (*Fig. 2*) produced by the position sensor, and with an output sine signal (SIN') and an output cosine signal (COS') (*Fig. 2, outputs of 12A-B*) each having a signal period ($f_{p''}$) which is a multiple of the signal period ($f_{p'}$) of the input signals (SIN, COS) being produced as a function of the digital position signal (POS, POS', POS") (*6, Column 6, lines 1-25*).

With respect to claim 2, Hagl further discloses the method characterized in that the position signal (POS) is digitally filtered (*Column 7, line 57*).

With respect to claim 3, Hagl further discloses the method characterized in that a digital position signal (POS') is formed in the course of the filtering from the filtered position signal, with a resolution (k) which is higher than that of the calculated position signal (POS) (*Column 4, lines 60-65*).

With respect to claim 4, Hagl further discloses the method characterized in that the position signal is low-pass-filtered (*Column 4, lines 26-30; Column 7, lines 57-58*).

With respect to claim 5, Hagl further discloses the method characterized in that the position signal is filtered by forming a sliding mean value (*Column 6, lines 60-65*).

With respect to claim 6, Hagl further discloses the method characterized in that errors which are typical of the signal transmitter are filtered out of the position signal (*Column 6, lines 60-65*).

With respect to claim 9, Hagl further discloses the method characterized in that the input sine signal (SIN) and the input cosine signal (COS) are error-corrected before the calculation of the position signal (POS) (*Column 6, line2 62-64*).

With respect to claim 17, Hagl further discloses the method characterized in that the frequency of the input signals (SIN, COS) is increased by an integer factor (*Column 5, lines 12-20*).

With respect to claim 19, Hagl further discloses the method characterized in that the output signals (SIN', COS') are read as a function of the position signal (POS, POS', POS") from at least one output table (16a, 16b) (*21A and 21B*) containing digitized values (*(0), ..., *(2^m-1)) of a sine function (*Fig. 3*).

With respect to claim 21, Hagl further discloses the method characterized in that the input signals (SIN, COS) are produced from a position measurement system (*1*).

With respect to claim 23, Hagl further discloses a position measurement system (*1*) for processing of signals (SIN, COS, REF) from a position sensor (*5*) with an input interface (*29*) to which an input sine signal (SIN) and an input cosine signal (COS) from a position sensor (*5; Fig. 4*) can be supplied during operation, having a calculation unit (*27*) by means of which a digital position signal (POS, POS', POS") which represents a position measured by the position sensor, can be produced from the input sine signal (SIN) and the output cosine signal (COS) (*Figs. 2 and 4*), and having a signal generation unit (6) (*41*), by means of which an output sine signal (SIN') and an output cosine signal (COS') (*Figs. 4; 37A-B*) can be produced as a function of the position signal (POS), respectively with a signal period which is a multiple of the input sine signal (SIN) and the input cosine signal (COS) (*6, Column 6, lines 1-25*).

With respect to claim 25, Hagl further discloses the method characterized in that a signal conditioning device (23) (*24*) is arranged between the calculation unit (30) (*27*) and the input interface (21) (*29*), by means of which the signal errors in the input sine signal (SIN) can be corrected using the input cosine signal (COS) (*Fig. 4*).

With respect to claim 29, Hagl further discloses the method characterized in that the apparatus has a position measurement means (2) (*1*), by means of which the input signals (SIN, COS) can be produced as signals which represent the movement of a meas (*Column 4, lines 22-30*).

Allowable Subject Matter

Claims 24, 26-28 and 32-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, taken alone or in combination, fails to disclose or render obvious, which makes the following claims allowable over the prior art:

With respect to claim 24, characterized in that a register (14) is provided in which the atan value can be stored as a k word with a resolution of k bits, and an addressing unit is provided, by means of which an m word comprising m successive bits where m<k can be read from the k word.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance.

Conclusion

The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Steinich et al. (US 2002/0190710), Roberts et al. (US 5,425, 060), and Carlin et al. (US 6,898,235).

Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy D. Khuu whose telephone number is (571) 272-8585. The examiner can normally be reached on M-F, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

6/9/06

MICHAEL NGHIEM
PRIMARY EXAMINER